BC HEALTH RESEARCH FOUNDATION

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June 28, 1991

The Honourable Bruce Strachan
Minister of Health, Province of British Columbia, and
Chairman of the Board, B. C. Health Research Foundation
Parliament Buildings
Victoria, B. C.
V8V 1X4

Dear Mr. Strachan:

In accordance with the requirements of the British Columbia Health Research Foundation Act, we have the honour to present you with the Annual Report of the B. C. Health Research Foundation for the fiscal year ending March 31, 1991.

Respectfully submitted,

L. T. Foster

Leslie T. Foster
Secretary Treasurer

Richard B. Whitney

Richard B. Whitney
Executive Director

BRITISH COLUMBIA HEALTH RESEARCH FOUNDATION

BOARD OF DIRECTORS MEMBERSHIP

as of March 31, 1991

CHAIRMAN
Honourable John Jansen, Minister of Health

VICE CHAIRMAN
Honourable Howard Dirks, Provincial Secretary

Honourable Bruce Strachan, Minister of Advanced Education, Training and Technology

Mr. Douglas Mowat, MLA, Vancouver/Little Mountain

Ms. Krysia Strawczynski, Deputy Minister, Health

Mr. Gerry Armstrong, Deputy Provincial Secretary

Mr. Gary Mullins, Deputy Minister, Advanced Education, Training and Technology

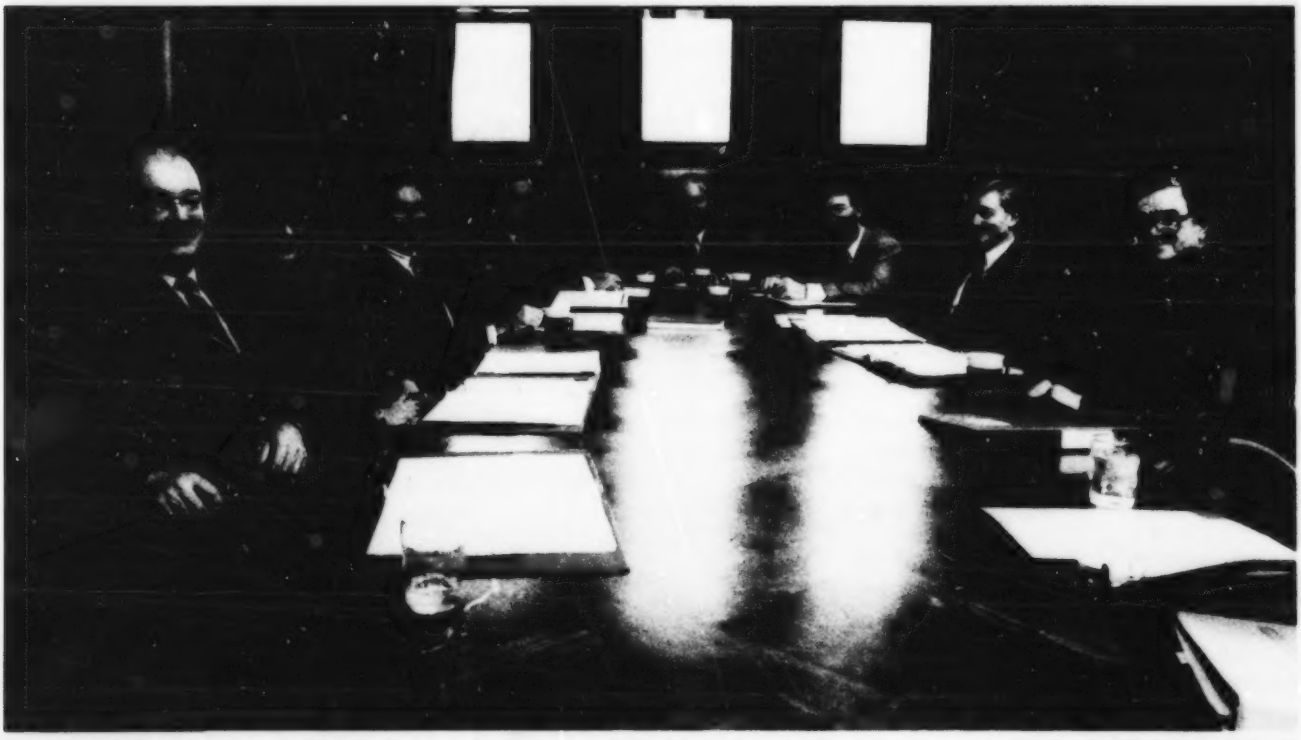
Mr. Leslie T. Foster, Assistant Deputy Minister, Health, and Secretary-Treasurer , BCHRF

Dr. R. Robert Schellenberg, Chairman, Scientific Advisory Committee

Other Members During 1990/91 Year

Mr. Stanley P. Dubas

Mr. Melvin H. Smith



Board of Directors. From left to right: B. Strachan, K. Strawczynski, G. Armstrong, H. Dirks, J. Jansen, L. Foster, R. Schellenberg, D. Mowat. Absent: G. Mullins.

BRITISH COLUMBIA HEALTH RESEARCH FOUNDATION

SCIENTIFIC ADVISORY COMMITTEE MEMBERSHIP

as of March 31, 1991

Dr. R. Robert Schellenberg, MD, Chairman
Professor, Department of Medicine
The University of British Columbia
St. Paul's Hospital

Parveen Bawa, PhD
Professor
School of Kinesiology
Simon Fraser University

J. Allan Best, PhD
Director, Research and Health Promotion
Wilson, Banwell & Associates Ltd.

J. J. C. Campbell, PhD
Professor Emeritus
Department of Microbiology
The University of British Columbia

Heather Clarke, PhD
Nursing Research Consultant
Registered Nurses Association of British Columbia

Arthur Fouks, QC
Vancouver

T. Gregory Hislop, MD
Senior Epidemiologist
British Columbia Cancer Agency

William J. Lawrence, Director
Research and Evaluation
Ministry of Health

John S. MacDonald, PhD
Chairman
MacDonald Dettwiler and Associates Limited
Richmond

Palmer M. Nerland
Vancouver

John Ruedy, MD
Head
Department of Medicine
The University of British Columbia
St. Paul's Hospital

Aubrey J. Tingle, MD, PhD
Professor, Departments of Paediatrics and Pathology
The University of British Columbia

Other Members During 1990/91 Year

Stephen M. Drance, OC, MD
Chairman to July 31, 1990

James Flett

FOUNDATION OVERVIEW

Introduction

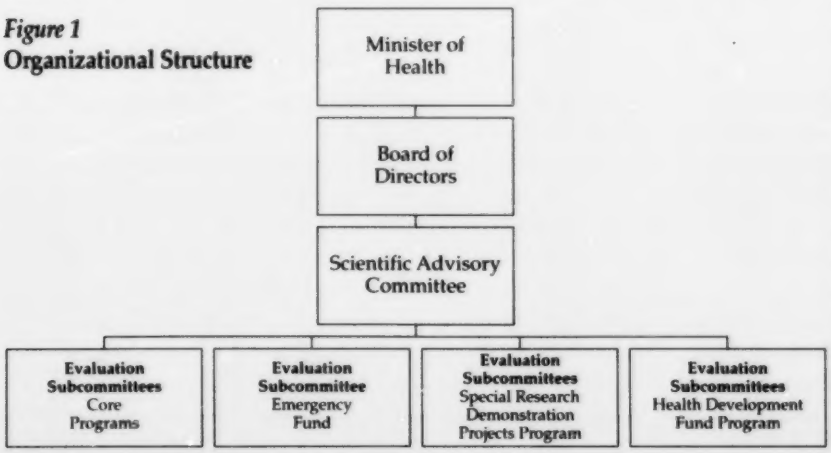
The British Columbia Health Research Foundation is a statutory corporation created by a legislative act which was introduced and passed during the spring 1990 session of the British Columbia Legislature. The legislation provided for the continuation of the old British Columbia Health Care Research Foundation which was established in 1977 under the Societies Act of British Columbia. The re-established Foundation continues to act as an agency for the allocation of B. C. Lottery Fund proceeds to health research and scholarship in the province.

Structure

The organizational structure is depicted in *Figure 1*. The Foundation is governed by a Board of Directors responsible to the Minister of Health consisting of, from at least eight to at most fifteen, members appointed by the Lieutenant Governor in Council. One membership position is reserved by the Act for the chairman of the Scientific Advisory Committee described below. The Board has final authority in the awarding of grants and the establishment of policy guidelines for the Foundation. The Board receives advice on grants, procedures and priorities from the Scientific Advisory Committee. This volunteer committee is appointed by the Board and consists of health scientists and practitioners and lay representatives. One of its most important functions is to oversee the peer review process.

A detailed peer review of grant applications is carried out by special volunteer evaluation subcommittees of health researchers appointed by the Scientific Advisory Committee. They are assisted by written external reviews from experts across North America and occasionally Europe. The subcommittees rate projects for scientific quality, feasibility and relevance to provincial health care issues. Their recommendations are then forwarded to the Scientific Advisory Committee for review prior to presentation to the Board for final approval. The Board, Scientific Advisory Committee and evaluation subcommittees are supported by an administrative staff of six employees.

Figure 1
Organizational Structure


Minister of Health
Board of Directors
Scientific Advisory Committee
Evaluation Subcommittees Core Programs
Evaluation Subcommittee Emergency Fund
Evaluation Subcommittees Special Research Demonstration Projects Program
Evaluation Subcommittees Health Development Fund Program

Mandate

The British Columbia Health Research Foundation Act substantially expanded the Foundation's mandate. The original purpose of the organization was to assist and collaborate with individuals and organizations conducting health research in the province especially basic medical research, clinical studies and health service research. The Act provides additional new roles for the organization. It will now also assist research in the areas of health policy, health promotion, health care, and health service delivery and evaluation. Further the Foundation may also cooperate in research endeavours with community organizations and health service delivery organizations. Finally, the mandate permits the Foundation to develop and encourage greater public awareness of the value of the Foundation and health research in general to the province and also to encourage additional forms of financial support for Foundation activities.

Table 1
CORE FUNDING BY YEAR

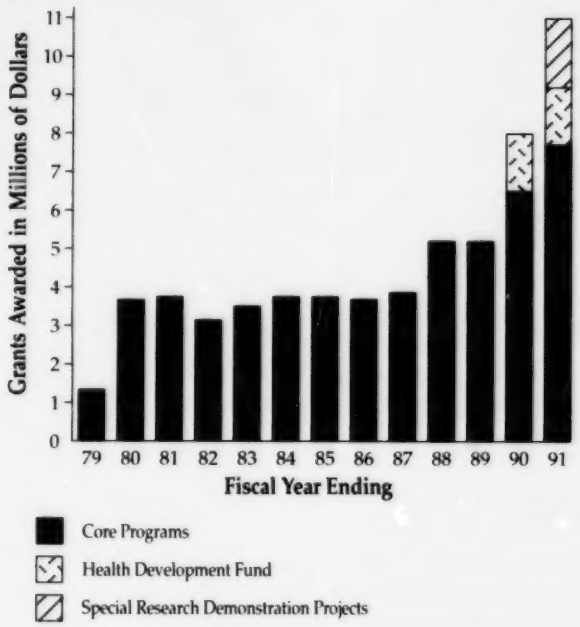
Fiscal Year Ending	Core Budget (million $)
1979	2.7
1980	2.7
1981	2.7
1982	2.7
1983	2.7
1984	2.9
1985	3.0
1986	3.4
1987	3.5
1988	4.0
FIVE YEAR PLAN I Initiated	
1989	5.0
1990	6.0
1991	7.2

Core Funding

From the Foundation's first fiscal year of 1978-79 through the 1990-91 fiscal year the organization received $48.5 million in funding from the British Columbia Lottery Fund for its core programs. The annual allocation remained at its original level of $2.7 million for the Foundation's first five years of operation *(Table 1)*. It then increased incrementally for the next five years until the initiation of the first Five Year Plan. Annual increases of at least $1 million have been received since that time.

The Five Year Plan was a long range budget proposal developed by the Foundation which projected the funding levels needed to support health research in the Province between fiscal years 1988-89 and 1992-93. It outlined the need for new programs and the expansion of existing programs, and proposed a distribution of funds that would meet these needs.

Figure 2
Overview of Grants Awarded



Under this Plan, the Foundation hopes to reach $9.5 million in annual core funding by 1992-93.

Grants Awarded

From the Foundation's inception through the end of the 1990-91 fiscal year 2,171 grants with a total value of almost $52.4 million have been awarded in the Foundation's core programs. This was approximately $3.9 million more than the Foundation received in Lottery Funds for the same period. The additional money was generated through interest received from short term investments of the lottery proceeds and a small amount received through private donations. All administrative costs are also covered from short term investments. The core programs provide operating and major equipment grants in the three general areas of basic medical science, clinical studies and health service research, personnel support in the form of research scholarships and development and training fellowships, and small grants to meet emergency situations.

Figure 2 presents an overview of total grants awarded from the first fiscal year through the 1990-91 year for the core programs. It also indicates additional funds awarded during the past two fiscal years as part of the Health Development Fund Program and during the 1990-91 year as part of the new Special Research Demonstration Projects Program. *Table 2* provides a breakdown of the annual distribution of core funding awards by evaluation subcommittee.

Foundation grants have supported important research in many health areas. For example projects have addressed:

- specific diseases such as cancer, Alzheimer's, AIDS, cerebral palsy, emphysema, diabetes, multiple sclerosis, Lou Gehrig's disease, muscular dystrophy;
- paediatric health;
- the prevention of disease;
- occupational health;
- harmful environmental substances and hazards;
- management of and quality assurance in health service delivery;
- assessment of health risk factors;
- treatment and management of disabilities;
- new technologies for diagnosis and treatment;
- the functioning of body systems.

Table 2
Annual Distribution of Grants by Subcommittee

CORE PROGRAMS

Fiscal Year Ending	Basic		Clinical		Health Service		Scholarship		Fellowship		Emergency Fund		Total	
	# App.	$ Awarded	# App.	$ Awarded	# App.	$ Awarded	# App.	$ Awarded	# App.	$ Awarded	# App.	$ Awarded	# App.	$ Awarded
1979	27	464,291	17	510,003	6	199,078	3	60,000	0	0	0	0	**53**	**1,233,372**
1980	70	1,387,841	64	1,586,017	21	389,734	5	127,500	2	18,800	0	0	**162**	**3,509,892**
1981	60	1,130,122	74	1,600,050	21	557,954	9	245,100	1	12,000	3	11,740	**168**	**3,556,966**
1982	56	1,073,550	54	1,216,650	15	307,770	11	307,690	7	104,250	14	84,412	**157**	**3,094,322**
1983	63	1,331,802	50	1,221,437	10	230,048	10	359,500	4	89,060	14	82,654	**151**	**3,314,501**
1984	63	1,339,587	56	1,284,107	23	417,032	7	217,300	11	253,150	20	112,147	**180**	**3,623,323**
1985	59	1,358,231	51	1,142,870	17	365,878	9	324,555	12	328,555	14	68,567	**162**	**3,588,656**
1986	56	1,198,000	43	992,365	29	674,253	8	267,383	11	273,295	16	89,360	**163**	**3,494,656**
1987	54	1,130,335	50	1,323,870	32	810,310	9	321,353	5	125,935	11	81,900	**161**	**3,793,793**
1988	86	2,113,147	63	1,744,047	24	572,862	9	369,900	7	142,673	8	40,493	**197**	**4,983,122**
1989	70	1,686,410	57	1,566,888	32	923,647	17	782,945	2	68,835	9	45,486	**187**	**5,074,211**
1990	79	2,127,431	70	2,018,035	33	1,094,813	21	987,721	3	106,190	6	33,045	**212**	**6,367,235**
1991	79	2,228,466	68	2,076,265	39	1,808,900	23	1,165,497	2	72,660	7	29,473	**218**	**7,381,261**
Total	822	18,569,213	717	18,282,604	302	8,352,279	141	5,536,444	67	1,595,403	122	679,367	**2,171**	**52,365,416**

THE YEAR IN REVIEW

Introduction

The 1990-91 fiscal year will be remembered as the year the Foundation came of age and moved into the upper echelons of Canadian health research funding agencies. Most significantly The British Columbia Health Research Foundation Act, which re-established the Foundation as a statutory corporation was passed unanimously by the Legislature on July 5, 1990. It was brought into force by order of the Lieutenant Govenor in Council on March 12, 1991. Significant new efforts in the area of public relations were also undertaken. Foundation Core Programs were also supported to new record levels through continuation of the third year of the Five Year Plan, and the second year of the Health Development Fund Program was successfully concluded. Finally the Special Research Demonstration Projects Program was operationalized, and two of the four initial competitions were completed.

Core Programs

For the fifth consecutive year the Foundation established new funding records in its core programs. Awards totalling approximately $7.38 million were made to 218 separate projects (*Table 3*). This was an increase of more than $1 million from the preceding year. The continued commitment of the Board of Directors to the Five Year Plan's proposed annual base budget increases allowed the Foundation to attain these impressive funding figures. From the operating side, the Scientific Advisory Committee also remained true to its commitments to direct the increased funding to the priority areas specified in the Five Year Plan.

The basic medical science and clinical studies sectors benefited particularly from an increase in the size of an average award of about $5,000 from the previous year. Statistical data in The Plan had illustrated that inflationary effects were beginning to hamper progress in some basic and clinical studies. The amount of an average award had increased only marginally in the years prior to initiation of the 5 Year Plan. Both clinical studies and basic medical research projects were supported to new record levels of $2.08 million (68 awards) and $2.23 million (79 awards) respectively.

The biggest beneficiary of the increased funding level in 1990-91 was the health service research sector. The Foundation's policy-makers have grappled with the large task of developing the province's research capabilities in this important sector almost from the outset. After receipt and implementation of recommendations on ways to promote research in the sector provided by a special task force in 1983, a steady growth in funding to health service projects has occurred. The 1990-91 year saw 39 awards made for a total of almost $1.81 million (*Table 3*). This was a 65% increase from the previous year which was itself a record amount. The amount of funding directed to health service research has now more than tripled relative to the Foundation's early years.

Additional funds also went to support 7 new research scholars, and 16 existing awards were renewed. The total of 23 scholars active at one time was a new record as was the $1.17 million committed to support these outstanding young health researchers. Expansion of the Research Scholar Program was an important aspect of the 5 Year Plan. The number of scholars has more than doubled in the first three years, and will help improve the health research infrastructure and expertise in the province.

The Development and Training Fellowship Program awarded one new fellowship and one renewal in 1990-91. This small program supports young health researchers already employed in British Columbia who propose to undertake particularly unique research training outside the province for one or two years. They are expected to return with expertise not already available in the province.

The Foundation's Emergency Fund made seven awards for just over $29,000. The majority of these awards were made to overcome emergencies resulting from equipment failures or other unforeseen difficulties which threatened successful completion of ongoing projects. Requests received at any time during the year are fast-tracked, and typically, decisions are made within a month. The Fund is allocated up to $100,000 annually, and it fulfills an important if often unrecognized function in the continuum of health research funding.

The Foundation supports high quality projects across the full spectrum of health related subject areas. Table 4 indicates the 1990-91 distribution of core funding to various health categories. The five largest research categories for the year were:

- $1.13 million (34 awards) for cancer
- $946,000 (29 awards) for infectious disease including AIDS
- $755,000 (24 awards) for cardiovascular disease
- $635,000 (16 awards) for respiratory disease
- $378,000 (6 awards) for environmental/occupational health studies.

Many of the funded projects have potential immediate relevance to health care in the province. For example one project will compare the relative value of several types of supportive shoes and orthoses in treating complications associated with rheumatoid arthritis. Another will evaluate the relative effectiveness of various fluoride preventive technologies on the prevalence of dental caries in children. A third will develop an improved surgical therapy for larynx paralysis while a fourth will develop methods to predict and prevent development of pressure sores in elderly patients. It is very likely that a fair proportion of these and the numerous other projects receiving support will markedly benefit the health of British Columbians.

Table 3

Summary of Core Program Grants Awarded in 1990-91[1]

A. Breakdown of Awards by Subcommittee

	No. of Applications Received	No. of Awards	$ Requested	$ Awarded
Basic Science	111	79	5,137,037	2,228,466
Clinical	119	68	4,938,453	2,076,265
Health Service	81	39	4,483,385	1,808,900
Scholarship	31	23	1,615,310	1,165,497
Fellowship	3	2	118,840	72,660
Emergency Fund	11	7	74,164	29,473
Total	356	218	16,367,189	7,381,261

B. Breakdown of Awards by Institution

	No. of Applications Received	No. of Awards	$ Requested	$ Awarded
Simon Fraser University	21	11	1,091,013	433,373
University of British Columbia	122	93	5,443,975	2,929,743
University of Victoria	17	10	704,897	280,599
Hospitals (affiliated with UBC)	146	78	6,735,839	2,786,176
Hospitals (not affiliated with UBC)	5	3	174,211	119,424
B. C. Cancer Agency	19	9	1,070,928	418,793
B. C. Cancer Research Centre	11	8	476,702	260,788
Others	12	4	550,784	79,705
Fellowships (out of Province)	3	2	118,840	72,660
Total	356	218	16,367,189	7,381,261

C. Breakdown of Awards by Type of Grant

	No. of Awards	$ Awarded
Operating	174	5,825,289
Major Equipment	12	288,342
Scholarship	23	1,165,497
Fellowship	2	72,660
Emergency Fund	7	29,473
Total	218	7,381,261

[1]Figures are as awarded

Table 4
Breakdown of Awards by Research Categories
Core Programs[1]

Health Category[2]	No. of Awards	$ Awarded	Notes
AIDS	4	132,800	
Cancer	34	1,128,563	
Cardiovascular disease	24	755,113	
Diabetes	8	285,712	
Disabilities/rehabilitation	9	244,919	
Dental science	4	144,820	
Environmental/occupational health	6	378,176	
Epilepsy	2	42,872	
Gastrointestinal disease	7	255,618	
Genetic disease	7	203,776	
Gerontology	6	161,261	
Health service research	6	368,875	(includes outcome research, technology assessment, service delivery research, quality control)
Infectious disease	25	813,222	
Mental health research	12	293,258	(includes psychology, psychiatry, schizophrenia research)
Neuroscience	12	333,555	
Nursing research	3	92,930	
Obstetrics/gynaecology	6	229,848	
Ophthalmology	5	153,383	
Paediatrics	3	124,352	
Respiratory disease	16	634,946	
Transplantation	3	97,015	
Other diseases	5	145,549	(includes cerebral palsy, Lou Gehrig's disease, Multiple Sclerosis, Crohn's disease)
Miscellaneous	11	360,698	
	218	7,381,261	

[1]Figures are as awarded

[2]Number of awards in each category is an approximation since some projects relate to more than one category but are only indicated in one place

Health Development Fund Program

The 1990-91 year saw the successful completion of the second year of operation of the Health Development Fund. This initiative provided an opportunity for a joint venture with the Science Council of British Columbia. Funding for the program in the amount of $2.9 million per year came from federal funds, transferred to the province as a result of changes to the Patent Act. Treasury Board has approved funding for the next two years, bringing to four years the total confirmed funding for the program.

As in the previous year one special competition with three distinct sections was held to allocate the funds. The B. C. Health Research Foundation section awarded $1,151,916 to thirty-two requests for major pieces of research equipment (*Table* 5). The largest award for $100,000 went to Dr. A. Wayne Vogl and seven collaborators in the Departments of Anatomy and Ophthalmology at the University of British Columbia to purchase a state of the art fluorescent microscope and image processing system. This competition generally favoured the funding of multi-user equipment in order to ensure that maximum value was obtained from the dollars invested. The two years of support for the purchase of research equipment provided by the Health Development Fund has filled a major gap in health research funding in British Columbia. There have been virtually no other sources of funds in Canada for equipment during the past several years. Consequently, the Health Development Fund competitions have helped provincial researchers maintain their high degree of excellence by providing substantial infrastructure support. The Foundation Board has directed funding for the third year to another equipment competition, and the fourth year of funding will be dedicated to a health outcome research competition.

The second section, termed the Joint Section because it was jointly evaluated and administered by the Foundation and the Science Council, awarded $897,006 to fourteen projects (*Table* 5). These projects were targeted to the development, demonstration and evaluation of health care technology and/or to the improvement of the effectiveness and efficiency of health care delivery. One award for $50,000 went to Mr. David Cooper and Ms. Debbie Field of Sunny Hill Hospital for Children to develop and assess a computerized optronics controller for facilitating the use of wheelchairs and communication aids by children with severe disabilities. Another award for $42,803 went to Mr. Richard Doll of the British Columbia Cancer Agency to evaluate the clinical and economic effects of a learning enhancement system for chemotherapy treatment. A third award for $41,035 to evaluate the efficacy and safety of a new drug used to sedate children after open heart surgery went to Dr. Andrew Macnab of British Columbia's Children's Hospital. The Foundation Board has approved the future years' funding to be allocated to health technology assessment research.

The third section, administered by the Science Council, awarded $936,859 to ten projects which involved applied research and development related to health product commercialization.

Table 5
Summary of HDF Grants Awarded in 1990-91

A. Breakdown of Awards by Subcommittee

	No. of Applications Received	No. of Awards	$ Requested	$ Awarded
BCHRF Section	55	32	2,942,873	1,151,916
Joint Section	27	14	2,378,643	448,503[1]
Total	82	46	5,321,516	1,600,419

B. Breakdown of Awards by Institution

	No. of Applications Received	No. of Awards	$ Requested	$ Awarded
Simon Fraser University	4	3	218,479	108,487
University of British Columbia	25	15	1,522,136	567,987
University of Victoria	5	4	155,102	112,294
Hospitals (affiliated with UBC)	29	13	1,673,953	454,312
Hospitals (not affiliated with UBC)	6	2	418,339	57,024
British Columbia Cancer Agency	3	3	239,386	106,001
Others	10	6	1,094,121	194,314
Total	82	46	5,321,516	1,600,419

[1]HDF-Joint awards are recorded as 50% of total awarded since the other 50% is contributed by the Science Council of B.C.

Special Research Demonstration Projects Program

Ms. Joan Rysavy, Coordinator for the Health Promotion "Flame Out" project, has been overwhelmed by the response of students and schools wishing to participate in this action-research project.

A very significant addition to the Foundation's programs during the 1990-91 year was the introduction of the Special Research Demonstration Projects (SRDP) program. This program is intended to provide community groups with an opportunity to form partnerships with experienced health researchers to devise and evaluate unique health service delivery projects. It is also hoped that the program will stimulate health research activity outside the Victoria and Lower Mainland areas.

This program introduced a new two-stage application process which had not been used previously. Applicants were not required to submit fully developed proposals initially as is the case in the other Foundation programs. Instead the first step of the process requested the submission of a brief letter of intent outlining the proposed project and estimated budgetary requirements. The letters were reviewed by a joint peer review committee of Ministry of Health personnel, and health researchers who were appointed in the usual manner by the Foundation's Scientific Advisory Committee. The proposals judged to have the most potential for successful development advanced to Stage II of the competition. Stage II applicants were given about three months to develop full scale proposals and were, in some cases, provided with up to $5,000 as a formulation grant to acquire expert assistance in preparing the final application. The Stage II applications were then extensively evaluated by the committee with the assistance of external reviews from experts in the respective fields. The letter of intent process worked well. It was especially well received by applicants who appreciated not having to invest a great deal of time preparing a complete proposal until they had feedback that their preliminary idea was highly rated.

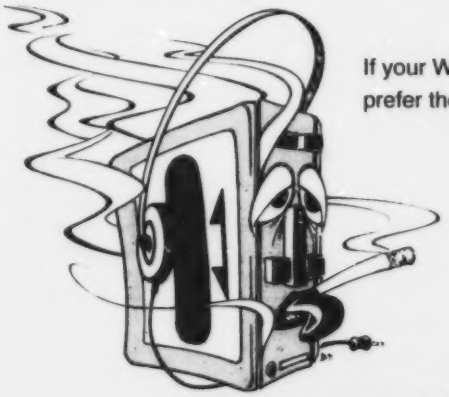
Four separate competitions each worth a total of approximately $1 million were initiated during 1990-91. The four targeted areas selected for the competitions were:

- health promotion and disease prevention
- seniors' health care
- health initiatives for persons with disabilities
- mental health.

The first two, health promotion and seniors' health, were successfully completed prior to year end. The other two were in progress and completion was expected in the first half of the next fiscal year.

Flame Out

LOGO CONTEST



If your Walkman's smoking and you prefer the company of a non-smoker...

DESIGN A LOGO FOR FLAME OUT

The winner will get a

NON-SMOKING WALKMAN

Project Flame Out is a program to encourage teens to choose a smoke-free lifestyle

Submit your design and you could win

1st Prize	— **Sportster Walkman** (value $120) donated by Kelly's Electronic World, Smithers
2nd, 3rd & 4th Prizes	— **Sunstopper Sunglasses** (value $85.00 each) donated by Benson Opticals, Terrace
5th Prize	— **1 Walkman** (value $60.00) donated by Northern Drugs
6th, 7th & 8th Prizes	— **Sweatshirts** (valued at $50.00 each) donated by Universal Stores

Entries must be submitted to your school advisory teacher before June 14, 1991.
Judging will be done by your school and your school's winning logo will be submitted to the "Flame Out" Steering Committee for final judging.

Project "Flame Out" is a participatory action-research project to reduce teenage smoking in Northwestern B.C.
Project "Flame Out" is funded by the BRITISH COLUMBIA HEALTH CARE RESEARCH FOUNDATION and administered by the Skeena Union Board of Health.

Poster used to stimulate response.

The Health Promotion competition was the first to be completed. About $97,000 in formulation grants was provided to Stage II applicants to develop their proposals. Seven final awards were made totalling $894,259 (Table 6). The projects supported covered a wide range of topics, and five of the seven originated outside the Lower Mainland.

The largest award of $298,600 went to a project organized by the Central Kootenay Union Board of Health. It was for a two year project to develop, demonstrate and evaluate comprehensive health promotion strategies for small communities.

Another award, for $110,000, went to a project developed by the Skeena Union Board of Health. The proposal was to use a participatory action-research approach to develop strategies for reducing tobacco use by teenagers.

The Seniors' Health Care competition used about $95,000 to support Stage II formulation grants and then awarded $900,065 to twelve projects (Table 6). These awards were mainly concentrated in Vancouver and Victoria, areas with a high proportion of seniors. One award for $115,600 went to Dr. Gerald Hodge of Spindle Kin Productions Incorporated to develop a video-disc tool which will facilitate the accessing of long-term care facilities by ethnic elders.

Table 6
Summary of SRDP Program Grants Awarded in 1990-91

A. Breakdown of Awards by Subcommittee

	No. of Letters of Intent Received	$ Requested	No. recommended to Stage II	Stage II $ Requested	No. of Awards	$ Awarded
Health Promotion	163	18,039,678	19	2,352,246	7	894,259
Seniors' Health Care	108	11,088,044	22	2,173,181	12	900,065
Total	271	29,127,722	41	4,525,427	19	1,794,324
					Formulation Grants Awarded =	192,519
					Total Awarded =	1,986,843

B. Breakdown of Awards by Geographic Area

Health Promotion	No. of Letters of Intent Received	No. recommended to Stage II	Stage II $ Requested	No. of Awards	$ Awarded
Lower Mainland	97	7	730,288	2	147,280
Greater Victoria	29	1	113,100	0	0
Other Areas	37	11	1,508,858	5	746,979
Total	163	19	2,352,246	7	894,259
				Formulation Grants Awarded =		97,227
				Total Awarded =		991,486

Seniors' Health Care	No. of Letters of Intent Received	No. recommended to Stage II	Stage II $ Requested	No. of Awards	$ Awarded
Lower Mainland	56	13	1,310,348	7	498,155
Greater Victoria	18	5	547,653	3	287,410
Other Areas	34	4	315,180	2	114,500
Total	108	22	2,173,181	12	900,065
				Formulation Grants Awarded =	95,292
				Total Awarded =	995,357
Total for both competitions	271	29,127,722	41	4,525,427	19	1,986,843

C. **Breakdown of Awards by Source of Application**

Health Promotion	No. of Letters of Intent Received	No. recommended to Stage II	Stage II $ Requested	No. of Awards	$ Awarded
Community Organizations	61	4	517,240	1	98,750
Health Units	21	6	950,700	3	485,005
Hospitals and Long Term Care Facilities	21	0	0	0	
Private Sector	15	1	82,590	0	0
Universities and Colleges	25	3	110,410	1	48,530
Others	20	5	691,306	2	261,974
Total	163	19	2,352,246	7	894,259
				Formulation Grants Awarded =	97,227
				Total Awarded =	991,486

Seniors' Health Care	No. of Letters of Intent Received	No. recommended to Stage II	Stage II $ Requested	No. of Awards	$ Awarded
Community Organizations	55	8	757,221	4	225,085
Health Units	11	3	227,052	1	64,500
Hospitals and Long Term Care Facilities	17	5	446,831	4	333,980
Private Sector	5	2	243,200	1	115,600
Universities and Colleges	16	4	498,877	2	160,900
Others	4	0	0	0	0
Total	108	22	2,173,181	12	900,065
				Formulation Grants Awarded =	95,292
				Total Awarded =	995,357
Total for both competitions	271	41	4,525,427	19	1,986,843

Public Relations

In keeping with its expanded mandate the Foundation initiated a public relations program in 1990-91 for the first time . The organization's profile was enhanced in several ways. New office space was acquired providing the Foundation with its first ever independent office. Space had always been shared with the Science Council of B. C. since both organizations were established in 1977. Additionally a unique logo and corporate identity were designed to provide the Foundation with a distinctive new face.

The Honourable John Jansen addresses reception guests.

Two other new and likely permanent fixtures were established. A quarterly newsletter called the BCHRF News was designed and implemented. Its format included regularly updated information on Foundation programs, competition results, stories on major health research initiatives in the province and short profiles of British Columbia researchers and projects receiving Foundation funding. The Foundation also hosted its first reception. The purposes of the event were to honour recent grant recipients and to thank the many volunteer members of Foundation committees. It provided the first opportunity for interaction among Board members, awardees, Scientific Advisory Committee and evaluation subcommittee members and representatives of related organizations. Board President, The Honourable John Jansen, Minister of Health, lauded the accomplishments of Foundation grant recipients and the contributions of volunteer members.

The reception was very well received, and planning began for a similar function in 1991.

Summary

From any standpoint the Foundation completed its most successful year ever. It was given a large measure of permanence through specific legislation which received unanimous support in the Legislature. The total value and number of awards increased from $8.3 million and 248 respectively in 1989-90 to $11.0 million and 283 in 1990-91. The new Special Research Demonstration Projects program was launched which dramatically broadened the range of health research which the Foundation could fund. Finally, the scope of activities was expanded beyond the traditional funding role, particularly in the area of public relations. There is little doubt that the Foundation is now recognized as an essential part of British Columbia's superior health care system.

Board Vice President, The Honourable Howard Dirks, seen talking to Dr. Max Cairns, outgoing director, also attended.

AWARDS BY B.C. HEALTH RESEARCH FOUNDATION

COMPETITION (90-1)

HEALTH SERVICE RESEARCH

Anderson, Joan M., Nursing, UBC
Chronic illness, illness management and patterns of help-seeking: a comparative study of Chinese and Anglo-Canadian women with diabetes.
(nursing research) $60,201

Armstrong, Robert W., Farrell, Kevin, Steinbok, Paul, Paediatrics, UBC
Efficacy of intrathecal baclofen in the treatment of spasticity in children.
(paediatrics) $54,124

Baker, Raymond, Greater Victoria Hospital Society, Victoria
The impact of a chemical dependency team on the identification and management of alcohol and drug misusers among admissions to a community hospital.
(mental health) $55,300

Chalmers, Andrew, Arthritis Society, B. C. & Yukon Division, Vancouver
The comparison of supportive shoes and two types of orthoses in the treatment of metatarsalgia secondary to rheumatoid arthritis.
(disability/rehabilitation) $13,804

Christenson, James M., Surgery, UBC
Feasibility study for the pre-hospital administration of thrombolytic therapy by paramedics.
(cardiovascular disease) $28,709

Clark, D. Christopher, Hann, H. Jack, Clinical Dental Sciences, UBC
Evaluation of the effects of fluoride preventive technologies on the prevalence of dental fluorosis and dental caries in school children in fluoridated and non-fluoridation cities.
(dental science) $44,820

Coldman, Andrew J., Gallagher, Richard P., British Columbia Cancer Agency, Vancouver
Analysis of four epidemiologic studies of malignant melanoma.
(cancer) $39,740

Coren, Stanley, Psychology, UBC
The distribution of auditory deficits in the general population: measurement and assessment.
(mental health) $30,655

Deschamps, Michele, Bradley, Leslie, Coldman, Andrew J., Hislop, T. Gregory, British Columbia Cancer Agency, Vancouver
Study of pain in the British Columbia cancer population.
(cancer) $85,021

Eaves, Linda C., Ho, Helena H., Sunny Hill Hospital for Children, Vancouver
Sunny Hill autism project.
(disability/rehabilitation) $10,000

Fielding, David W., Pharmaceutical Sciences, UBC, **Page, Gordon G.**, Medicine, UBC, **Rogers, W. Todd**, Education, UBC, **Schulzer, Michael**, Statistics/Medicine, UBC
Assessing the competence of pharmacists.
(health service research/quality control) $69,128

Fleetham, John A., Medicine, UBC
Screening technique in patients with suspected obstructive sleep apnea and treated obstructive sleep apnea.
(respiratory disease) $68,831

Gribble, Marie J., Medicine, UBC
Asymptomatic bacteriuria in spinal cord injured persons: an assessment of its clinical consequences and the impact of antimicrobial therapy.
(disability/rehabilitation) $58,831

Hershler, Cecil, G. F. Strong Centre, Vancouver
Clinical trials of the Computerized Limb volume Measurement System (C.L.E.M.S.) in persons with neurological injury.
(disability/rehabilitation) $39,750

Hertzman, Clyde, Health Care and Epidemiology, UBC
Chlorophenates in the lumber industry.
(environmental health) $62,921

Joachim, Gloria, Nursing, UBC, **Hassall, Eric**, Paediatrics, UBC
Premorbid variables among paediatric inflammatory bowel disease patients.
(paediatrics) $45,227

Kerr, Charles R., Leather, Richard, Medicine, UBC
A prospective randomized study of pacing modalities in patients with sick sinus syndrome.
(cardiovascular disease) $59,500

Ross, Susan E., Kazanjian, Arminée, Health Sciences Coordinator, UBC
Measuring nutrition-related health of the elderly.
(gerontology) $10,500

Schreiber, Donald H., Surgery, UBC
The role of automatic external defibrillators (AED's) in improving survival outcome in post-cardiac arrest patients.
(cardiovascular disease) $11,750

Steinbok, Paul, Neurosurgery, B. C.'s Children's Hospital, Vancouver
Selective functional posterior rhizotomy study.
(cerebral palsy) $44,230

Teschke, Kay, Hertzman, Clyde, Spinelli, John J., Health Care and Epidemiology, UBC
Case surveillance as a means of tracing occupational and environmental exposure sources: a pilot study using mesothelioma, nasal cancer, and bladder cancer cases.
(occupational/environmental health) $53,850

CLINICAL STUDIES

Albersheim, Susan G., Paediatrics, UBC
The effects of indomethacin on the pulmonary circulation and lungs.
(respiratory disease) $24,000

Bai, Tony R., Medicine, UBC
Neuropeptides and adrenergic receptors in asthmatic lung tissue.
(respiratory disease) $40,000

Ballem, Penny J. D., Medicine, UBC, **Devine, Dana V., Carter, Cedric J.**, Pathology, UBC
Mechanisms of thrombosis in preeclampsia.
(obstetrics/gynaecology) $34,000

Bawa, Parveen, Kinesiology, SFU
Central control of motor units in man.
(neuroscience) $27,300

Brunette, Donald M., Gould, Timothy R. L., Oral Biology, UBC
In vitro studies of the effects of surface topography on mineralized tissue formation.
(dental science) $27,000

Carruthers, Jean D. A., Shaw, Christopher, Cynader, Max S., Ophthalmology, UBC, **McLean. David I.**, Medicine, UBC
A search for steroid and estrogen receptors in periocular hemangiomas of infancy and childhood.
(cancer) $15,000

Chow, Anthony W., Medicine, UBC
Major Equipment: labware washer with reverse osmosis water system, dual-beam ultra-violet spectrophotometer, fast peptide liquid chromatography system (FPLC).
(infectious disease) $18,000

Chow, Anthony W., Medicine, UBC
Model of toxic shock syndrome.
(infectious disease) $42,900

Doerschuk, Claire M., Pathology, UBC
Leukocyte kinetics and cytokine production in acute and chronic gram-negative septicemia.
(respiratory disease) $36,000

Doyle, Patrick J., Schwarz, Dietrich W. F., Surgery, UBC
Development of a surgical therapy for larynx paralysis.
(disability/rehabilitation) $35,000

Goldie, James H., Coldman, Andrew J., Ng, Vincent T. Y., British Columbia Cancer Agency, Vancouver
Models for the development of resistance to anti-cancer agents.
(cancer) $32,000

Graf, Peter, Holly, Tuokko, Psychology, UBC
Attention functions in dementia.
(mental health) $20,000

Graf, Peter, Psychology, UBC
Major Equipment: Image digitizing and editing system.
(mental health) $14,818

Isaac-Renton, Judith L., Medical Microbiology, UBC
A community outbreak of Giardiasis: profiles of the parasite.
(infectious disease) $35,000

Jefferies, Wilfred, Biotechnology Lab, UBC
The role of an Adenovirus-2 protein in lowering cell surface expression of histocompatibility molecules and in viral persistence.
(infectious disease) $50,000

Jones, Peter J. H., Family & Nutritional Sciences, UBC; **Frohlich, Jiri J.**, Pathology, UBC; **MacGillivray, Ross T. A.**, Biochemistry, UBC
Response of endogenous cholesterol synthesis and esterification to level of dietary cholesterol and triglycerides in apolipoprotein E phenotypes.
(cardiovascular disease) $25,000

Junker, Anne K., Paediatrics, UBC
Primary Epstein-Barr virus infection in infants.
(infectious disease) $25,000

Kwan, Wing C., Medicine, UBC
Human intestinal T cells lymphokine production.
(gastrointestinal disease) $44,000

Lam, Raymond W., Solyom, Leslie, Goldner, Eliot M., Remick, Ronald A., Psychiatry, UBC
A controlled trial of phototherapy for seasonal bulimia.
(mental health) $19,000

Levine, Marc, Bellward, Gail, Pharmaceutical Sciences, UBC
Isozyme selective inhibition of a hepatic cytochrome by cimetidine.
(epilepsy) $22,000

Livesley, W. John, Knoblock, Ferdinand, Schroeder, Marsha L., Psychiatry, UBC
The convergent and discriminant validity of diagnoses of personality disorder.
(mental health) $20,000

MacEntee, Michael I., Clarke, D. Christopher, Clinical Dental Sciences, UBC, **Glick, Frederick P.**, Statistics, UBC, **McBride, Barry C.**, Science, UBC
Identification of caries risk in elderly populations.
(dental science) $39,000

Matheson, Gordon O., Sports Medicine Clinic, UBC
Investigation and treatment of "high risk" stress fractures.
(orthopaedics) $7,300

Meneilly, Graydon S., Bryer-Ash, Michael, Medicine, UBC
Major Equipment: Gamma counter.
(gerontology) $18,000

Mojon, Philippe, Clinical Dental Sciences, UBC; **Hawbolt, E. Bruce**, Metals and Materials Engineering, UBC; **MacEntee, Michael I.**, Clinical Dental Sciences, UBC
The adhesive bond-strength of dental luting cements.
(dental science) $34,000

Moon, Young S., Obstetrics and Gynaecology, UBC
Detrimental effects of superovulation.
(obstetrics/gynaecology) $40,000

Pezim, Michael E., Johnson, Hjalmar W., Surgery, UBC
Development of a pedicle valve unit (PVU) for enteric continence.
(surgery) $21,000

Phang, P. Terry, Surgery, UBC, **Russell, James A.**, Medicine, UBC
Measured oxygen consumption and delivery in Adult Respiratory Distress Syndrome.
(respiratory disease) $27,000

Qayumi, A. Karim, Jamieson, Eric W. R., Surgery, UBC
Multiple approach for control of ischemia-reperfusion injury in a model of heart-lung transplantation.
(organ transplantation) $35,000

Reid, W. Darlene, Rehabilitation Medicine, **Belcastro, Angelo**, Physical Education, UBC
Recovery from diaphragmatic fatigue.
(respiratory disease) $52,000

Rennie, Paul S., Coldman, Andrew J., British Columbia Cancer Agency, Vancouver, **Godolphin, William**, Pathology, UBC
Genetic markers for the assessment of hormone and drug resistance in prognostic factors in human breast cancer.
(cancer) $45,000

Ritchie, Douglas B. C., Biochemistry, UBC, **Carter, Cedric J.**, Pathology, UBC
Characterization of mutations responsible for antithrombin III deficiency.
(cardiovascular disease) $40,000

Seccombe, David W., Pathology, UBC, **Keown, Paul A.**, Medicine, UBC
Cyclosporin: the metabolic and clinical significance of its interaction with lipoproteins.
(organ transplantation) $12,000

Steinbrecher, Urs. P., Shapiro, R. Jean, Medicine, UBC
Major Equipment: UV/visible spectrophotometer.
(cardiovascular disease) $15,000

Tsui, Joseph K., Medicine, UBC
The clinical application of botulinum toxin in neurology.
(infectious disease) $38,000

Wood, Stephen, Medical Genetics, UBC
Isolation and characterization of DNA probes located near the locus that predisposes to schizophrenia.
(mental health) $41,000

BASIC MEDICAL SCIENCE

Altamirano, Manuel, Owen, David, Medical Microbiology, UBC
Polymerase chain reaction and the detection of Mycobacterium paratuberculosis in Crohn's disease; study in ethiological connection.
(Crohn's disease) $20,000

Astell, Caroline R., Biochemistry, UBC
Negative control of DNA replication in composite plasmids.
(cancer) $27,930

Baimbridge, Kenneth G., Physiology, UBC
Role of calcium in long-term potentiation and neuron death.
(neuroscience) $33,000

Bressler, Bernard H., Anatomy, UBC
High resolution image analysis of contracting skeletal muscle.
(muscle disease) $28,000

Bushnell, Gordon W., Chemistry, U. Victoria
X-ray crystallography of restriction endonucleases and their associated methylases.
(cancer) $29,925

Candido, E. Peter M., Biochemistry, UBC
Isolation and analysis of genes encoding ubiquitin activation and conjugating enzymes.
(cancer) $31,000

Cavalier-Smith, Thomas, Botany, UBC
Lysosome biogenesis and endomembrane cytochemistry of *Giardia*.
(infectious disease) $25,413

Corcoran, Michael E., Psychology, U. Victoria
Aspects of hippocampal plasticity.
(neuroscience) $28,000

Cornell, Rosemary, Chemistry, SFU
Mapping the regulatory domains of cytidylytransferase.
(respiratory disease) $34,000

Dedhar, Shoukat, British Columbia Cancer Agency, Vancouver
Regulation of proteinase expression by integrin mediated cell-extracellular matrix interactions during tumour cell invasion of basement membranes.
(cancer) $25,000

Farrell, Anthony P., Biological Sciences, SFU
Coronary lesions and omega-3 fatty acids.
(cardiovascular disease) $27,930

Finlay, B. Brett, Biochemistry/Microbiology, UBC
Characterization of *Salmonella* intracellular replication.
(infectious disease) $21,945

Gillam, Shirley, Pathology, UBC
Role of membrane glycoproteins in immune surveillance of rubella virus infection.
(infectious disease) $27,930

Godin, David V., Pharmacology & Therapeutics, UBC
Antioxidant status in clinical and experimental diabetes.
(diabetes) $31,000

Haunerland, Norbert H., Biological Sciences, SFU
Function of cardiac fatty acid binding protein.
(cardiovascular disease) $32,585

Ho Yuen, Basil, Leung, Peter C. K., Obstetrics & Gynaecology, UBC
Control of human placental hormone production by prohormone-derived peptides and Interleukin-1.
(obstetrics/gynaecology) $29,925

Jones, David R., Zoology, UBC
Energy metabolism of ischaemic skeletal muscle.
(cardiovascular disease) $9,975

Katz, Sidney, Pharmaceutical Sciences, UBC
Calcium regulation in pancreatic acinar cells.
(diabetes) $29,925

Kwok, Yin N, Physiology, UBC
Cholinergic mechanisms in the gastrointestinal tract.
(gastrointestinal disease) $34,913

Lyster, Donald M., Pharmaceutical Sciences, UBC
Glucose analogues in nuclear medicine.
(cardiovascular disease) $31,000

Moroney, Simon E., Chemistry, UBC
A hybrid enzyme for oligoribonucleotide production.
(cancer) $35,000

Olafson, Robert W., Biochemistry & Microbiology, U. Victoria
The role of structurally defined cell surface oligosaccharides in the pathogenesis of *Leishmania* infections.
(infectious disease) $27,930

Pearson, Terry W., Biochemistry & Microbiology, U. Victoria
Antigens of protozoan parasites.
(infectious disease) $27,930

Pederson, Raymond A., Physiology, UBC
Gastric inhibitory polypeptide secretion from isolated cells in culture.
(diabetes) $31,000

Pelech, Steven L., Medicine,UBC
Major Equipment: Oocyte microinjection system and microscope.
(cancer) $19,600

Pinto, Brian M., Chemistry,SFU
Potential inhibitors of AIDS virus envelope glycoprotein glycosylation.
(AIDS) $26,000

Piret, James M., Biotechnology Laboratory, UBC
Glycophospholipid anchored recombinant protein expression in high cell density bioreactors.
(cancer) $35,000

Reiner, Neil E., Medicine, UBC
Calcium and monocyte activation.
(infectious disease) $33,915

Romaniuk, Paul J., Biochemistry & Microbiology, U. Victoria
Structure/function analysis of a eukaryotic regulatory protein.
(infectious disease) $34,913

Sadowski, Ivan J., Biochemistry, UBC
Major Equipment: High performance liquid chromatography system.
(cancer) $35,000

Sastry, Bhagavatula R., Pharmacology & Therapeutics, UBC
Studies on homo- and hetero-synaptic depressions in the hippocampus.
(neuroscience) $27,000

Shaw, Christopher, Ophthalmology, UBC
Hormonal regulation of receptor ontogenesis in mammalian neocortex.
(ophthalmology) $24,938

Skov, Kirsten A., British Columbia Cancer Agency, Vancouver, **Bates, Gordon S.**, Chemistry, UBC
Hypoxia selective DNA binding agents: assessment of groove binders with incorporated nitroheterocycles.
(cancer) $26,000

Soja, Peter J., Pharmaceutical Sciences, UBC
A pontine mechanism for rapid eye movement (REM) sleep atonia and cataplexy.
(neuroscience) $35,910

Steeves, John D., Zoology, UBC
Changes in gene expression related to spinal cord repair.
(neuroscience) $10,000

Tron, Victor A., Pathology, UBC
Molecular pathology of malignant melanoma.
(cancer) $30,000

White, Valerie A., Pathology, UBC, **Horsman, Douglas E.**, British Columbia Cancer Agency, Vancouver
Cytogenetic and molecular genetic investigation of uveal melanoma.
(cancer) $8,000

Zhang, Lewei, Clinical Dental Sciences, UBC
Placental glutathione-S transferase activity during buccal pouch mucosa (HBPM) carcinogenesis.
(cancer) $30,000

Ziltener, Hermann J., Pathology, UBC
Anticytokine antibodies as agonists and antagonists.
(infectious disease) $34,000

SCHOLARSHIPS AND FELLOWSHIPS

Buller, Christopher E., Vancouver General Hospital, Vancouver
Fellowship. (i) Thermal perfusion coronary angioplasty: development and validation of a new angioplasty technology; (ii) Interventional cardiac catheterization: clinical training.
(cardiovascular disease) $38,840

Church, John, Physiology, UBC
Scholarship. Modulation of hippocampal pyramidal cell function by extra- and intra-cellular pH changes, and by dextromethorphan and sigma receptor ligands.
(gastrointestinal disease) $57,135
$10,000

Doerschuk, Claire M., Pathology, UBC
Scholarship. Leukocytes in pulmonary inflammation.
(respiratory disease) $50,015
$10,000

Hsiang, York N-H, Surgery, UBC
Scholarship. Photodynamic therapy of atherosclerosis.
(cardiovascular disease) $53,335
$10,000

Kehl, Steven J., Physiology, UBC
Scholarship. Neurotransmitter mechanisms and stimulus-secretion coupling in cultured mammalian pituitary cells.
(neuroscience) $43,360

Korbelik, Mladen, British Columbia Cancer Agency, Vancouver
Scholarship. Tumour localizing properties of Photofrin II and detection of early cancer.
(cancer) $30,187

Kwan, Wing C., Medicine, UBC
Scholarship. Human intestinal T cells lymphokine production, utilization and interaction.
(gastrointestinal disease) $48,330

McLarnon, James G., Pharmacology and Therapeutics, UBC
Scholarship. An electrophysiological study of the perturbation of central nervous system ion channels by n-alkanols and inhalational anaesthetics.
(neuroscience) $48,330

Phang, P. Terry, Surgery, UBC
Scholarship. The effects of early feeding on outcome and muscle function in critically ill patients.
(respiratory disease) $51,750

Qayumi, A. Karim, Surgery, UBC
Scholarship. Multiple approach for control of ischemia-reperfusion injury in a model of heart-lung transplantation.
(organ transplantation) $50,015

Reid, W. Darlene, Rehabilitation Medicine, UBC
Scholarship. Fatigue and rest of the respiratory muscles.
(respiratory disease) $35,890
$10,000

Shaw, Christopher, Ophthalmology, UBC
Scholarship. Physiological consequences of receptor modifications in mammalian visual cortex.
(ophthalmology) $51,750

Soja, Peter J., Pharmaceutical Sciences, UBC
Scholarship. A pontine mechanism for REM atonia and cataplexy.
(neuroscience) $44,885

Swindale, Nicholas V., Ophthalmology, UBC
Scholarship. Neural basis of visual hyperacuity.
(ophthalmology) $55,225

Tsui, Joseph K., Medicine, UBC
Scholarship. The clinical application of botulinum toxin in neurology.
(infectious disease) $53,335

Walley, Keith R., Medicine, UBC
Scholarship. Pathophysiology of cardiac dysfunction in acute respiratory failure.
(respiratory disease) $46,580

Total Awarded — Competition (90-1)
(112 awards) $3,907,704

COMPETITION (90-2)

HEALTH SERVICE RESEARCH

Armstrong, Robert W., Hill, Alan, Lupton, Brian, Pendray, Margaret, Robinson, Geoffrey, Roland, Elke, Paediatrics, UBC; **Effer, Sidney**, Obstetrics and Gynaecology, UBC
A provincial study of neonatal encephalopathy.
(health service research-epidemiology) $50,341

Band, Pierre R., Spinelli, John J., Epidemiology, Biometry and Occupational Oncology, British Columbia Cancer Agency, Vancouver
Mortality and cancer incidence study of Air Canada pilots.
(occupational/environmental health) $81,366

Collins, Rebecca, Psychology, UBC
Formulation Grant: Provision of care to persons with AIDS: relationships, stigma and other factors.
(AIDS) $5,000

Conine, Tali, Hershler, Cecil, Rehabilitation Medicine, UBC; Daechsel, Dawn, Occupational Therapy, Lion's Gate Hospital, North Vancouver
Prevention and prediction of pressure sores in elderly patients.
(gerontology) $52,000

Duncan, Clive, Orthopaedics, UBC ; **Denford-Nelson, Bonnie, Wallace, Marie**, The Arthritis Society, Vancouver
The effect of a pre-operative physiotherapy program on post-operative outcome following total hip replacement surgery.
(disability/rehabilitation) $19,531

Dyck, Isabel J., Jongbloed, Lyn, Rehabilitation Medicine, UBC; **Crichton, Anne**, Health Care and Epidemiology, UBC
Women, work and disability: the experiences of women diagnosed with Multiple Sclerosis.
(multiple sclerosis) $45,369

Grace, John R., Bert, Joel, Chemical Engineering, UBC; **Band, Pierre R., Spinelli, John J.**, Epidemiology, Biometry and Occupational Oncology, British Columbia Cancer Agency, Vancouver
A hierarchical coding system for occupational exposure.
(occupational/environmental health) $48,310

Grenier, Fereshteh, Nursing, Vancouver General Hospital
Formulation Grant: Factors contributing to the recruitment, selection and retention of applicants to, or students in, the U.B.C./V.G.H. nursing program.
(nursing research) $2,500

Henry, Effie, Cariboo Park Home Society, Williams Lake
Formulation Grant: An intervention study to determine if a nutrition and management training program improves the quality of food service to residents in adult care facilities less than 25 beds.
(health service delivery/program evaluation) $2,500

Hilton, B. Ann, Nursing, UBC; **Rebbeck, Patricia**, Ambulatory Breast Clinic, UBC
A longitudinal study of family adjustment to a breast cancer diagnosis.
(nursing research) $30,229

Hislop, T. Gregory, Gallagher, Richard P., Epidemiology, Biometry and Occupational Oncology, British Columbia Cancer Agency, Vancouver
Etiology of prostate cancer in high, medium and low incidence groups.
(cancer) $54,479

Jongbloed, Lyn, Stanton (Ryan), Sue, Rehabilitation Medicine, UBC
Adjustment at home following a stroke: a longitudinal study.
(disability/rehabilitation) $19,961

Kelly, Michael T., Pathology, UBC
The effect of fish farms on the occurrence and antibiotic resistance of pathogenic *Vibrionaceae* in British Columbia.
(infectious disease) $62,582

Kennedy, Susan M., Medicine, UBC; **Teschke, Kay**, Health Care and Epidemiology, UBC
Acute airway responses to occupational exposures: risk factors and early progression among apprentices.
(occupational/environmental health) $86,844

King, Arlene S., Marion, Stephen A., Rekart, Michael, Riben, Peter, Health Care and Epidemiology, UBC; **Montaner, Julio**, Infectious Disease Clinic, St. Paul's Hospital, Vancouver
Salivary HIV-1 antibody testing: is it accurate?
(AIDS) $65,000

Ling, Emily, Synnes, Anne R., Medicine, UBC; **Effer, Sidney**, Obstetrics and Gynaecology, UBC; **MacKinnon, Murray**, Biostatistics, B. C.'s Children's Hospital, Vancouver; **Lopes, Laudelino**, Grace Hospital, Vancouver
Survival outcome and early morbidity of extremely premature infants between 1983-1989.
(health service research/ outcomes) $23,803

Milstein, Stephen, Rutman, Deborah, Gutman, Gloria, Hodge, Gerald, Gerontology, SFU; **Krane, William**, Psychology, SFU; **Dawson, J. Isobel, Gallagher, Elaine, Jackson, Marilyn**, Nursing, U. Victoria
Evaluating the Victoria Health Project.
(health service research/ program evaluation) $150,000

Sheps, Samuel B., Health Care and Epidemiology, UBC
The incidence of changing trends in birthweight-specific infant mortality in British Columbia, 1952-1989.
(health service research/ epidemiology) $62,193

CLINICAL STUDIES

Allard, Michael F., Pathology, UBC
Mechanisms of ischemic injury in cardiac hypertrophy.
(cardiovascular disease) $37,500

Applegarth, Derek A., Paediatrics, UBC
Peroxisomal-mitochondrial interactions.
(genetic disease) $40,500

Barnett, Michael J., Eaves, Allen C., Medicine, UBC
Development of an improved test to identify patients with chronic myeloid leukemia suitable for autografting.
(cancer) $44,430

Bryer-Ash, Michael, Medicine, UBC
The role of vascular perfusion and transcapillary insulin transport in insulin resistance and diabetes mellitus.
(diabetes) $42,000

Carter, Cedric, Brooks, Donald, Pathology, UBC
Major Equipment: Contraves LS-30 variable shear rate viscometer.
(obstetrics/gynaecology) $43,823

Crockett, David J., Hurwitz, A. Trevor, Psychiatry, UBC; **MacDonald, John W.**, G. F. Strong Rehabilitation Centre, Vancouver; **Welch, Steven**, Psychology, Riverview Hospital, Coquitlam
Profile analyses of differences in intellectual performance in neuropsychiatric samples: a multi-site survey.
(mental health) $16,000

Davis, Noelle L., Finley, Richard J., Surgery, UBC
Intraoperative photo-immunotherapy for the control of local tumour recurrence following cancer surgery.
(cancer) $42,500

Dean, Elizabeth, Ross, Jocelyn, Rehabilitation Medicine, UBC
Comparison of the energetics of movement in healthy persons and patients with a history of poliomyelitis.
(infectious disease) $34,000

Enns, James T., Trick, Lana M., Psychology, UBC
Lifespan changes in visual-spatial attention.
(gerontology) $30,941

Fenwick, John C., Tweeddale, Martin G., Walley, Keith R., Medicine, UBC
Major Equipment: Portable metabolic cart system of indirect calorimetry.
(shock) $38,366

Fenwick, John C., Tweeddale, Martin G., Walley, Keith R., Medicine, UBC
Clinical studies of the relationship between oxygen delivery, measured oxygen consumption and gastric intramucosal pH in terminally ill and septic patients.
(shock) $20,000

Gorzalka, Boris, Tanco, Sheryl, Psychology, UBC
Diabetes and female sexual function.
(diabetes) $21,800

Ho, Vincent C., Medicine, UBC
Role of tumour infiltrating lymphocytes in cutaneous tumour-cell lymphoma.
(cancer) $39,000

Johnston, Charlotte, Psychology, UBC
Families of hyperactive children.
(mental health) $26,000

Kopala, Lili C., Clark, Campbell M., Psychiatry, UBC
Olfactory function in pre- and post- menopausal women with Schizophrenia.
(mental health) $13,100

Korbelik, Mladen, Cancer Imaging, British Columbia Cancer Agency, Vancouver
Distribution of photo-sensitizers within tumour tissue.
(cancer) $43,000

Krieger, Charles, Medicine, UBC
Studies of the pathogenesis of neuronal loss in Amyotrophic Lateral Sclerosis.
(Lou Gehrig's disease) $34,000

Langlois, Sylvie, Medical Genetics, UBC; **Junker, Anne K., Speert, David**, Paediatrics, UBC
Clinical, biochemical and molecular characterization of the patients of British Columbia with Chronic Granulomatous Disease.
(infectious disease) $34,000

Linden, Wolfgang, Psychology, UBC
A psychological analysis of silent myocardial ischemia.
(cardiovascular disease) $30,000

McComb, Peter F., Obstetrics and Gynaecology, UBC
The effect of carbon dioxide laser, electrosurgery and mechanical incision upon the ovary.
(obstetrics and gynaecology) $45,000

Meloche, R. Mark, Surgery, UBC
The effect of autonomic and enteric denervation on pancreatic endocrine function.
(diabetes) $41,000

Montaner, Julio S. G., Infectious Disease Clinic, St. Paul's Hospital, Vancouver; **Lawson, Lindsay, Ruedy, John**, Medicine, UBC; **Schechter, Martin**, Health Care and Epidemiology, UBC
Oral corticosteroids for mild AIDS-related *Pneumocystis carinii pneumonia.*
(AIDS) $36,800

Muller, Nestor L., Mayo, John R., Radiology, UBC
Magnetic resonance imaging of chronic diffuse infiltrative lung disease.
(respiratory disease) $17,250

Phang, P. Terry, Surgery, UBC, **Walley, Keith R.**, Medicine, UBC
Pathophysiology of gut oxygen transport in models of septic shock.
(gastrointestinal disease) $34,965

Pinel, John P. J., Psychology, UBC
A new model of brain-damage-produced anterograde amnesia.
(neuroscience) $25,000

Rachman, Stanley J., Psychology, UBC
The nature and treatment of claustrophobia.
(mental health) $22,800

Road, Jeremy D., Medicine, UBC
Inspiratory muscle response to hyperinflation.
(respiratory disease) $45,000

Roberts, Clive R., Medicine, UBC
Human tracheal cartilage proteoglycans in aging and disease.
(respiratory disease) $28,000

Scheifele, David, Paediatrics, UBC; **Mitchell, Leslie**, Vaccine Evaluation Centre., B. C.'s Children's Hospital, Vancouver
Role of pertussis vaccine in severe local reactions to booster doses of diphtheria-pertussis-tetanus vaccine.
(infectious disease) $35,000

Schroeder, Marsha, Livesley, John, Psychiatry, UBC
Affective instability in borderline personality disorder.
(mental health) $15,000

Tingle, Aubrey J., Paediatrics/Pathology, UBC
Breast milk transmission of rubella virus in women receiving postpartum rubella immunization: immunologic and virologic implications for infants.
(paediatrics) $25,000

Tredwell, Stephen, Sawatzky Bonita, Orthopaedics, UBC; **Sanderson, David**, Physical Education, UBC
Postural sway in Scoliosis with Cotrel-Dubousset instrumentation.
(disability/rehabilitation) $4,172

BASIC MEDICAL SCIENCE

Ashwood-Smith, Michael J., Biology, U. Victoria
Major Equipment: Low pressure liquid chromatography apparatus.
(cancer) $6,832

Ausio, Juan, Biochemistry and Microbiology, U. Victoria
Reconstitution of a homogeneous chromatin subunit; a new approach to the structural study of chromatin.
(cancer) $28,000

Brandhorst, Bruce P., Biological Sciences, SFU
Restricted gene expression.
(genetic disease) $33,000

Brock, Hugh W., Zoology, UBC
Genetic and molecular analyses of the *super sex combs* gene.
(cancer) $33,000

Buchan, Alison M. J., Physiology, UBC
Intercellular communication between pancreatic endocrine cells in culture.
(diabetes) $25,652

***Burke, Robert D.**, Biology, U. Victoria*
Microfibrils and their role in cell attachment and migration.
(genetic disease) $35,000

Burr, Arthur H., Biological Sciences, SFU
Sequence and expression of the visual pigment opsin genes.
(ophthalmology) $15,900

Cheng, Kimberly M., Animal Science, UBC; **Godin, David V.**, Pharmacology and Therapeutics, UBC
Anti-oxidant status and atherogenesis.
(cardiovascular disease) $33,000

Emerman, Joanne T., Weinberg, Joanne, Anatomy, UBC
Psychosocial stressors and tumour growth: endocrine and immune mediators.
(cancer) $30,782

Farrell, Anthony P., Biological Sciences, SFU
Major Equipment: Image analysis system.
(cardiovascular disease) $32,534

Freeman, Hugh J., Medicine, UBC
Adaption-dependent mechanisms of membrane transport in disease.
(gastrointestinal disease) $25,000

Goodfellow, Paul J., Friedman, Jan M., Medical Genetics, UBC
Genetic studies of X-linked cleft palate .
(genetic disease) $29,000

Hancock, Robert E. W., Microbiology, UBC
Role of novel porin proteins in outer membrane permeability.
(infectious disease) $27,560

Humphries, R. Keith, Medicine, UBC; **Takei, Fumio, Krystal, Gerald**, Pathology, UBC; **Mager, Dixie Lee**, Medical Genetics, UBC
Major Equipment: Inverted microscope and micro-manipulators.
(cancer) $30,000

Humphries, R. Keith, Medicine, UBC; **Hayden, Michael R., Marth, Jamey**, Medical Genetics, UBC
Gene therapy for hyper-lipidemia due to lipoprotein lipase deficiency.
(cardiovascular disease) $28,000

Johnson, Pauline, Microbiology, UBC
Molecular analysis of a lymphocyte homing molecule.
(cancer) $41,500

Kay, William W., Biochemistry and Microbiology, U. Victoria
Organization and expression of fibriation genes of *salmonella enteritidis*.
(infectious disease) $34,500

Krisinger, Johann, Obstetrics and Gynaecology, UBC
Regulation and function of a mammalian calcium-binding protein.
(obstetrics/gynaecology) $37,100

Mager, Dixie Lee, Medical Genetics, UBC
Molecular analysis of chromosome seven deletions in acute Myeloid Leukemia and Myelodysplasia.
(cancer) $33,369

Mathers, David A., Physiology, UBC
Desensitization of a chemical transmitter in spinal cord neurons.
(epilepsy) $20,872

McGeer, Patrick L., Psychiatry, UBC
Investigation of a new form of familial amyloidosis.
(genetic disease) $29,150

Moerman, Donald G., Zoology, UBC
The role of the *unc-112 gene* in organizing muscle sarcomeres.
(muscle disease) $37,000

Pelech, Steven L., Medicine, UBC
Role of a protein kinase in signal transduction by platelet agonists.
(cardiovascular disease) $23,320

Pritchard, P. Haydn, Pathology, UBC
Purification, characterization and cloning of porcine lipid transfer inhibitor protein.
(cardiovascular disease) $35,065

Rankin, Catharine H., Psychology, UBC
The effects of aging on learning and memory.
(gerontology) $26,500

Reiner, Peter B., Psychiatry, UBC
Mechanisms of ischemic brain damage.
(neuroscience) $34,980

Sadowski, Ivan J., Biochemistry, UBC
Protein-protein interactions of a transcriptional activator.
(cancer) $25,000

Shapiro, R. Jean, Medicine, UBC
Lipoprotein interactions with the glomerular mesangium.
(kidney disease) $30,000

Skarsgard, Lloyd D., Chaplin, David J., Medical Biophysics Unit, B. C. Cancer Agency, Vancouver
Cellular studies of the effect of hypoxia and low pH in the cytotoxic action of chemo-therapeutic drugs.
(cancer) $29,150

Skov, Kirsten A., Medical Biophysics Unit, British Columbia Cancer Agency, Vancouver
Major Equipment: IRIS workstation.
(cancer) $16,369

Snutch, Terry P., Biotechnology Laboratory, UBC
cDNA cloning and characterization of neurotensin receptors.
(neuroscience) $40,810

***Steinbrecher, Urs P.**, Medicine, UBC*
Regulation of apolipoprotein synthesis in human hepatocytes and intestinal cells.
(cardiovascular disease) $30,971

Takei, Fumio, Pathology, UBC; **Mager, Dixie Lee**, Medical Genetics, UBC
Novel multigene family encoding lectin-like receptors.
(genetic disease) $29,150

Tibbits, Glen F., Kinesiology, SFU
Major Equipment: Patch clamp equipment.
(cardiovascular disease) $9,239

Trust, Trevor J., Biochemistry and Microbiology, U. Victoria
Isolation and immuno-chemical characterization of *Helicobacter (Campylobacter) pylori* adhesins.
(infectious disease) $27,569

Tufaro, Francis, Microbiology, UBC
Studies on the structure and function of the Golgi complex.
(infectious disease) $25,000

Vaughan, Peter C., Physiology, UBC
Muscle potassium channels.
(cardiovascular disease) $16,960

Vincent, Steven R., Psychiatry, UBC
Histamine binding sites in the basal ganglia.
(neuroscience) $34,980

Warren, R. Anthony J., Microbiology, UBC
Affinity tagging for the purification and production of immunogens.
(infectious disease) $31,800

Wong, Norman Lok Man, Medicine, UBC
Aging and atrial natriuretic peptide.
(gerontology) $23,320

SCHOLARSHIPS AND FELLOWSHIPS

Allard, Michael F., Pathology, UBC
Scholarship: Mechanisms of ischemic injury in cardiac hypertrophy.
(cardiovascular disease) $50,015

Birch, Gary E., The Neil Squire Foundation, North Vancouver
Scholarship: Rehabilitation/habilitation research.
(disability/rehabilitation) $33,870
$10,000

Borgford, Thor, Chemistry and Biochemistry, SFU
Scholarship: Calcium binding and conformational change of a calcium binding protein explored by site-directed mutagenesis.
(cardiovascular disease) $44,885

Bryer-Ash, Michael, Medicine, UBC
Scholarship: The role of vascular perfusion and transcapillary insulin transport in insulin resistance in Diabetes Mellitus.
(diabetes) $53,335
$10,000

Honer, William G., Psychiatry, UBC
Scholarship: Molecular and pathological studies of the brain in Schizophrenia.
(mental health) $44,885
$10,000

Kennedy, Susan, Medicine, UBC
Scholarship: Personal and occupational risk factors for chronic obstructive airways disease: epidemiologic factors.
(occupational/environmental health) $44,885

Korbelik, Mladen, Cancer Imaging, British Columbia Cancer Agency, Vancouver
Scholarship: Distribution of photosensitizers within tumour tissue.
(cancer) $51,750

Webber, Eric M., Surgery, UBC
Fellowship: Liver progenitor cells: isolation and analyses of their differentiation capacity.
(liver disease) $33,820

Wilcox, Pearce G., Medicine, UBC
Scholarship: Effects of monocyte secretory products and tumour necrosis factor on diaphragm contractility.
(respiratory disease) $51,750

Total Awarded — Competition (90-2)
(99 awards) $3,444,084

EMERGENCY FUND 1990-91

Freeman, Hugh J., Steinbrecher, Urs P., Medicine, UBC
Repair of printer for Beckman scintillation counter.
(gastrointestinal disease) $1,275

Rose, Ann M., Astell, Caroline R., Candido, E. Peter M., Cavalier-Smith, T., Goodfellow, P., Hayden, M., McMaster, W.R., Snutch, T., Wood, S., Medical Genetics, UBC
Shortfall in HDF-ME 1989 award for automated sequencing machine
(genetic disease) $7,976

Richards, James F., Biochemistry, UBC
Repairs to Barnstead Fi-stream still.
(metabolism) $822

Steinbok, Paul, B. C.'s Children's Hospital, Vancouver
Cost of video taping re BCHRF Grant: Selective functional posterior rhizotomy study.
(cerebral palsy) $1,950

Shaw, Christopher, Carruthers, Jean, Ophthalmology, UBC
Purchase of tissue culture biological safety cabinet.
(ophthalmology) $5,570

Jefferies, Wilfred A., Finlay, B. Brett, Biotechnology Lab, UBC; **Green, Beverley R.**, Botany, UBC
Partial purchase of Cryopreservation Unit.
(infectious disease) $5,000

Hogg, James C., Roberts, Clive, Bondy, Greg, Dodek, Peter, Pulmonary Research Laboratory, UBC
Tissue culture lab equipment; biochemistry lab equipment.
(respiratory disease) $6,880

Total Awarded — Emergency Fund (7 awards) $29,473

COMPETITION (HDF-ME-90)

Baird, Patricia A., Sadovnick, Adele D., Medical Genetics, UBC
Computer with printer and software.
(genetic disease) $12,000

Bandiera, Stelvio M., Pharmaceutical Sciences, UBC
Analytical High Performance Liquid Chromatography system.
(cardiovascular disease) $30,000

Brown, John C., Buchan, Alison M. J., Kwok, Yin Nam, McIntosh, Christopher H. S., Pederson, Raymond A., Physiology, UBC
Gamma-counter and centrifugation equipment.
(gastrointestinal disease) $54,000

Brunette, Donald M., Oral Biology, UBC
Zeiss photomicroscope.
(dental science) $40,000

Coldman, Andrew J., Ng, Vincent T. Y., British Columbia Cancer Agency, Vancouver
Computer workstation with tape backup unit.
(cancer) $25,000

Cullis, Pieter R., Biochemistry, UBC
UltraViolet/Visible spectrophotometer.
(cancer) $11,468

Cushley, Robert J., Chemistry, SFU
Detector for Infra-Red Fourier Transform.
(cardiovascular disease) $11,509

Fleetham, John A., Road, Jeremy, Wilcox, Pearce G., Ryan, C. Francis, Medicine, UBC
Ambulatory sleep monitoring and analysis equipment.
(respiratory disease) $57,674

Gillam, Shirley, Pathology, UBC
Fast Protein Liquid Chromatography system.
(infectious disease) $24,000

Goodfellow, Paul J., Medical Genetics, UBC
High-speed centrifuge and rotors.
(genetic disease) $26,818

Hancock, Robert E. W., Finlay, Brett, McBride, Barry C., Microbiology, UBC
Automated DNA sequencer.
(infectious disease) $62,630

Ishiguro, Edward E., Biochemistry and Microbiology, U. Victoria
Radioisotope detector for High Performance Liquid Chromatography system.
(infectious disease) $23,585

Jamieson, Eric W. R., Surgery, UBC
Cardiac volume pulsed flow/dimension system.
(organ transplantation) $71,004

Keown, Paul A., Shackleton, Christopher R., B. C. Transplant Society, Vancouver
Microscopy and image recording equipment.
(organ transplantation) $20,000

Klingemann, Hans-Georg, Medicine, UBC; **Eaves, Connie**, Medical Genetics, UBC; **Lansdorp, Peter**, Medicine, UBC; **Olive, Peggy**, Pathology, UBC
Counterflow centrifugal elutriation system.
(cancer) $49,500

Levi, Ellen C., Audiology and Speech Sciences, UBC
Signal analysis system.
(disability/rehabilitation) $39,000

MacGillivray, Ross T. A., Biochemistry, UBC
Phastgel, densitometer, blotting apparatus, Fast Protein Liquid Chromatography apparatus.
(cancer) $33,000

MacLeod, Kathleen M., Pharmaceutical Sciences, UBC
Intracellular calcium ion analyzer.
(diabetes) $22,000

Macnab, Andrew J., Hill, Alan, Roland, Elke H., Paediatrics, UBC
Near infrared differential spectrophotometer.
(paediatrics) $47,573

Mauk, Grant, Biochemistry, UBC
Flash photolysis apparatus.
(metabolism) $40,000

Meneilly, Graydon S., Bryer-Ash, Michael, Medicine, UBC
Gamma counter.
(gerontology) $10,000

Nano, Francis E., Biochemistry and Microbiology, U. Victoria
Pulse field electrophoresis apparatus.
(infectious disease) $7,437

Olafson, Robert W., Biochemistry and Microbiology, U. Victoria
Carbohydrate assay system.
(infectious disease) $43,000

Paré, Peter D., Medicine, UBC; **Hogg, James C.**, Pathology, UBC; **Pardy, Richard L., Schellenberg, R. Robert**, Medicine, UBC; **Doerschuk, Claire M.**, Pathology, UBC; **Walley, Keith, Bai, T.**, Medicine, UBC
Physiologic recorders.
(respiratory disease) $18,000

Pinto, B. Mario, Borgford, Thor J., Cornell, Rosemary B., Cushley, Robert J., Oehlschlager, A. Cameron, Tracey, Alan S., Alai-Safar, Mehrshid, Chemistry and Biochemistry, SFU
Molecular graphics facility.
(AIDS) $76,978

Rabkin, Simon W., Medicine, UBC
Microdialysis.
(cardiovascular disease) $27,552

Richardson, Thomas L., Kinesiology, SFU
Assembly and recording equipment for microelectrode array.
(neuroscience) $20,000

Shackleton, Christopher R., Davis, Noelle L., Finley, Richard J., Surgery, UBC
Microprocessor controlled cryostat with motor drive.
(organ transplantation) $31,916

Shaw, Christopher, Ophthalmology, UBC; **Auersperg, Nelly, Crawford, Bruce J.**, Anatomy, UBC
Motorized cryostat.
(ophthalmology) $35,000

Sherwood, Nancy M., Burke, Robert D., Biology, U. Victoria
Liquid scintillation counting system.
(cancer) $38,272

Vogl, A. Wayne, Anatomy, UBC; **Shaw, Christopher**, Ophthalmology, UBC; **Auersperg, Nelly A., Bressler, Bernard H., Crawford, Bruce J., Emerman, Joanne T., Todd, Mary E., Palaty, Vladimir**, Anatomy, UBC
In vivo imaging of molecular processes.
(neuroscience) $100,000

Withers, Stephen G., Chemistry, UBC; **Brayer, Gary D.**, Biochemistry, UBC
High performance liquid chromatography equipment for carbohydrate separations.
(diabetes) $43,000

Total Awarded — Competition HDF-ME 1990
(32 awards) $ 1,151,916

COMPETITION (HDF-JOINT-90)

Breault, Martine J., Orthopaedics, UBC
Clinical evaluation and improvement of automated operative assistance for orthopaedic surgery.
(orthopaedics) $50,000

Cooper, David, Field, Debbie, Sunny Hill Hospital for Children, Vancouver
Computerized optronics controller for independent use of wheelchair and communication aids by children with physical disabilities.
(disability/rehabilitation) $50,000

Coy, Peter, British Columbia Cancer Agency, Vancouver
Lung cancer economic evaluation study.
(cancer) $119,200

Dillon, F. G., J. A. Pentland Ltd., Vancouver
Collaborative study of the cost effectiveness and efficiency of CAD/CAM in the design, manufacture and delivery system of prosthetic appliances.
(disability/rehabilitation) $70,194

Doll, Richard, British Columbia Cancer Agency, Vancouver
Clinical and economic effects of the learning enhancement system for chemotherapy treatment.
(cancer) $42,803

Fancourt-Smith, Peter F., Warriner, Charles B., Anaesthesiology, UBC
Evaluation and improvement of automated systems for intravenous regional anaesthesia.
(anaesthesiology) $73,150

Godolphin, William, Andronic Technologies Incorporated, Vancouver
A clinical laboratory workflow simulation and optimization system.
(laboratory services) $88,780

Hershler, Cecil, Conine, Tali A., Daniels, Linda, Jones, Wayne, G. F. Strong Centre, Vancouver
Computer Activated Test of Tactile Neglect and Extinction (CATTNE).
(disability/rehabilitation) $41,152

Hertzman, Clyde, Health Care & Epidemiology, UBC
Parkinson's Disease: a case-control study of occupational and environmental risk factors.
(occupational/environmental health) $23,142

Levy, Julia, Quadra Logic Technologies Inc., Vancouver
Development of bone marrow purging technology for autologous bone marrow transplantation in acute leukemia and development of sensitive probes for evaluation of the purging procedure.
(cancer) $60,000

Macnab, Andrew, B. C.'s Children's Hospital, Vancouver
Efficacy and safety of Midazolam for the sedation of children following open heart surgery.
(paediatrics) $41,035

Roxborough, Lauren, Sunny Hill Hospital for Children, Vancouver
Development of a quantitative measure of seated postural control in children.
(disability/rehabilitation) $64,048

Sherlock, Christopher H., Lansman, Robert A., Medical Microbiology, UBC
Use of nucleic acid probes and the polymerase chain reaction for detection and typing of human papillomaviruses in cervical tissue.
(cancer) $85,000

Smith, Beverly, Acquired Intelligence Inc., Victoria
The collaborative evaluation and application of a knowledge-based system for child clinical neuropsychology.
(paediatrics) $88,502

Total Awarded — Competition HDF-Joint 1990
(14 awards) $897,006[1]

[1]Equal contributions of $448,503 from the B. C. Health Research Foundation and the Science Council of B. C.

HEALTH PROMOTION 1990

Ms. Laura Kalina, South Central Health Unit, Kamloops
Shop Wise. $76,405

Ms. Adele Ritch, Kiwassa Neighbourhood Services Association, Vancouver
Nobody's Perfect/English as a Second Language. $98,750

Ms. Susanne Sam, STO:LO NATION, Canada Services Branch, Sardis
Healing Disfunctional Families. $225,974

Ms. Louise Tenn, School of Nursing, UBC
An Accident Prevention Program for Adolescents. $48,530

Ms. Patrica Fowler, Central Kootenay Union Board of Health, Nelson
Central Kootenay Tricity Health Promotion Project. $298,600

Mr. John LeSage, Skeena Union Board of Health, Terrace
"Flame Out" a participatory action-research approach to teenage smoking in Northwest British Columbia $110,000

Mrs. A. M. Martin, Health Advisory Committee, Prince George
We're here to stay: a healthy community initiative for Prince George. $36,000

Total Stage II Awards — Health Promotion 1990 (7 awards)	$ 894,259[2]

[2]An additional $97,227 was awarded as formulation grants to assist in the preparation of Stage II applications.

SENIORS' HEALTH CARE 1990

Bonner, Margot, Greater Victoria Hospital Society, Victoria
The Capital Region Elder Abuse Program. $126,510

Dixon, Roger A., University of Victoria
Encouraging appropriate use of medication by older adults in British Columbia. $53,900

Tuokko, Holly, University Hospital, U. B. C. Site, Vancouver
Caregivers and management techniques for Dementia. $96,530

Tsang, Stella, St. Paul's Hospital, Vancouver
A community approach to reaching and providing health services for the "invisible seniors". $135,000

Jones, Joyce, Vancouver Second Mile Society, Vancouver
Strengthening a neighbour to strengthen a community. $25,000

Blais, Dawn, St. Paul's Hospital, Vancouver
The implementation and evaluation of a least restraint program in acute care. $52,450

Hodge, Gerald, Spindle Kin Productions Inc., North Vancouver
A video-disc tool to facilitate access by ethnic elders to long-term care facilities. $115,600

Nelson, Shirley Ann, Yaletown House Society, Vancouver
Impact of live evening music therapy programming on psychogeriatric resident sundowning and agitation. $33,575

Foster, Patricia, Cumberland Health Centre, Cumberland
An outpatient continence clinic. $64,500

Davies, Sue, Slocan Community Hospital and Health Care Centre, New Denver
Young and elderly sharing school. $50,000

Gallagher, Elaine, University of Victoria
Primary prevention of falls among the elderly. $107,000

Danforth, Doug, B. C. Drug & Poison Information Program, Vancouver
Psychogeriatric knowledge among facility staff. $40,000

Total Stage II Awards — Seniors' Health 1990 (12 awards)	$900,065[3]

[3]An additional $95,292 was awarded as formulation grants to assist in the preparation of Stage II applications.

THE BRITISH COLUMBIA
HEALTH RESEARCH FOUNDATION

FINANCIAL STATEMENTS

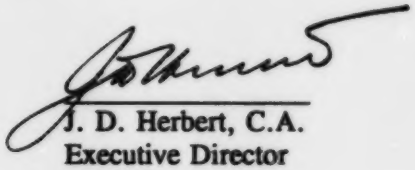
FOR THE YEAR ENDED
MARCH 31, 1991

STATEMENT OF RESPONSIBILITY

To the Board of Directors of the
British Columbia Health Research Foundation, and
To The Minister of Health:

Responsibility for the integrity and objectivity of the accompanying financial statements rests with the Foundation. The financial statements are prepared by the Financial Services Division, Ministry of Health in accordance with generally accepted accounting principles for non-profit organizations in a manner consistent with the previous year. Policies and procedures are designed to give reasonable assurance that transactions are appropriately authorized, assets are safeguarded, and financial records properly maintained to provide reliable financial statements.

The Auditor General of the Province of British Columbia conducts an independent examination, in accordance with generally accepted auditing standards, and provides an independent professional opinion on the financial statements of the Foundation.



J. D. Herbert, C.A.
Executive Director
Financial Services
Ministry of Health

Victoria, British Columbia
June 25, 1991

Legislative Assembly
Province of British Columbia

AUDITOR GENERAL

8 Bastion Square
Victoria
British Columbia
V8V 1X4
Telephone: (604) 387-6803
Fax: (604) 387-1230

AUDITOR'S REPORT

To the Members of the Board of Directors,
British Columbia Health Research Foundation, and

To the Minister of Health,
Province of British Columbia:

I have audited the balance sheet of the British Columbia Health Research Foundation as at March 31, 1991 and the statement of revenue and expenditure and surplus for the year then ended. These financial statements are the responsibility of the Foundation's management. My responsibility is to express an opinion on these financial statements based on my audit.

I conducted my audit in accordance with generally accepted auditing standards. Those standards require that I plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In my opinion, these financial statements present fairly, in all material respects, the financial position of the Foundation as at March 31, 1991 and the results of its operations for the year then ended in accordance with generally accepted accounting principles.

George L. Morfitt, F.C.A.
Auditor General

Victoria, British Columbia
June 14, 1991

BRITISH COLUMBIA HEALTH RESEARCH FOUNDATION

(Note 1)

STATEMENT OF REVENUE AND EXPENDITURE AND SURPLUS

FOR THE YEAR ENDED MARCH 31,1991

REVENUE	1991	1990
Contributions:		
Lottery Fund	$9,200,000	$6,000,000
Ministry of Advanced Education, Training and Technology	1,419,702	1,428,457
Interest	1,940,526	1,021,378
Donations	100	100
	12,560,328	8,449,935
EXPENDITURE		
Grants		
-Research	5,586,225	4,655,377
-Equipment	1,451,934	1,193,978
-Emergency funding	29,473	32,878
-Development	10,000	1,635
-Community Demonstration Projects	2,063,532	-
Research fellowships	35,670	99,358
Scholarship awards (Note 4)	1,259,910	830,143
Administrative expenses	482,976	271,265
Joint Patent Fund	448,503	469,214
	11,368,223	7,553,848
EXCESS OF REVENUE OVER EXPENDITURE	1,192,105	896,087
SURPLUS AT BEGINNING OF YEAR	1,154,318	258,231
SURPLUS AT END OF YEAR	$2,346,423	$1,154,318

BRITISH COLUMBIA HEALTH RESEARCH FOUNDATION

(Note 1)

BALANCE SHEET

AS AT MARCH 31,1991

ASSETS	1991	1990
Cash	$ 2,357,065	$ 8,928
Short-term investments	12,383,785	8,144,805
Interest receivable	6,296	4,645
Declined grants recoverable	5,626	122,462
Contributions receivable	-	1,456,796
	$ 14,752,772	$ 9,737,636
LIABILITIES		
Accounts payable	$ 69,653	$ 48,128
Grants, fellowships, and scholarships payable	6,816,645	4,067,987
Deferred contributions (Note 3)	5,520,051	4,467,203
SHAREHOLDERS' EQUITY		
Share Capital-authorized par value $100 (Note 1)	-	-
Surplus	2,346,423	1,154,318
	$ 14,752,772	$ 9,737,636

The accompanying notes are an integral part of these financial statements.

Approved by the Directors:

W. Bruce Strachan
Director

Lee Foster
Director

BRITISH COLUMBIA HEALTH RESEARCH FOUNDATION

NOTES TO FINANCIAL STATEMENTS

FOR THE YEAR ENDED MARCH 31, 1991

1. THE FOUNDATION

The British Columbia Health Research Foundation (the Foundation) was originally incorporated under the Society Act as the British Columbia Health Care Research Foundation (the Society). Pursuant to the British Columbia Health Research Foundation Act (the Act), effective March 12, 1991, the Society was dissolved and the Foundation was continued as a corporation and all property and rights of the Society were transferred to and vested in the Foundation. The Act requires the issuance of one share with a par value of $100 to the Province. The share had not been issued as at March 31, 1991.

The objects of the Foundation are to assist and collaborate with organizations conducting research in the field of health, including policy, promotion, and care in the Province of British Columbia; to co-operate with community facilities or organizations concerned with the general health of communities in the Province; and to accept and receive grants, donations, and other funds for use in carrying out its objects. It awards grants to support health research, purchase of equipment, development of research proposals, and special research demonstration projects for innovative community based pilot projects with evaluations.

2. SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting

These financial statements have been prepared in accordance with generally accepted accounting principles for non-profit organizations. A statement of changes in financial position has not been included as it would not provide additional useful information.

Specific Accounting Policies

a) Revenue

Contributions are recognized in the year in which the corresponding grants are awarded by the Foundation.

b) Expenditures

Grants and fellowships are recognized as expenditures in the year they are awarded.

Scholarship awards are renewable for three additional years, subject to satisfactory annual progress reports and applications for renewal. Only current year awards are expended during the year.

c) Short-Term Investments

Short-term investments consist of units in Province of British Columbia Pooled Investment Portfolios. Units are carried at the lower of cost adjusted by income attributed to the units, and market value. Income attributed to the units represents the unit holder's share of interest earned by the Portfolio which may be realized upon sale of units.

d) Donated Services

The Province and the Science Council of British Columbia provide certain staffing, accommodation, and administrative services to the Foundation. No amounts are recorded in the financial records of the Foundation for these donated services.

3. DEFERRED CONTRIBUTIONS

	1991	1990
Community Demonstration Projects	$4,000,000	$3,000,000
Ministry of Advanced Education, Training and Technology	$1,520,051	$1,467,203
	$5,520,051	$4,467,203

The Community Demonstration Projects contribution represents lottery funds received for which competitions will be held in the 1992 fiscal year.

The Ministry of Advanced Education, Training and Technology contribution relates to grants paid under the Federal Patent Act to The Province of British Columbia. Contributions received by the Foundation are those amounts authorized by the Treasury Board of The Province of British Columbia for distribution to The Foundation. The amount includes $981,700 (1990 - $971,198) to be administered by the Foundation and $538,351 (1990 - $496,005) to be administered jointly by the Foundation and the Science Council of British Columbia. Competitions will be held in the 1992 fiscal year.

4. COMMITMENT

If all existing scholarships are renewed for their remaining terms, the commitment required to fund them is $2,015,830 (1990 - $1,507,004).